

PSYCHE.

BIOLOGICAL NOTES ON SOME NORTH AMERICAN ICHNEUMONIDÆ.

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The following memoranda concerning the life-history of some common species of *ichneumonidæ* are based on a study of the collections and note boxes of the Illinois State laboratory of natural history, made during the winter of 1887-8, when the writer was connected with that institution. Though not of especial importance, it is believed that the observations here recorded will prove a useful contribution to our knowledge of the earlier stages of these interesting insects. All references to localities are to be understood as being in Illinois.

PIMPLA NOTANDA Cresson.

Two specimens of this handsome species were bred at Normal, 12 and 29 August 1884, from larvae of *Gelechia gallaesolidaginis* Riley. Others were swept from grass in McLean County, 22 June 1883; and from wheat in Clark County, 22 May 1884.

PIMPLA ANNULIPES Brullé.

During May 1887, a *Crambus* larva was found abundantly in a pasture field on the University farm, and a large number of specimens were placed under a bell-glass in the laboratory. The moths, which in all cases proved to be *Crambus exsiccatus*, began to emerge 24 May, and continued emerging until 9 June. At the latter date there were found in the cage a large number of

specimens of *Apanteles crambi* Weed, a single example of *Pimpla annulipes* Brullé, and also a specimen of another large ichneumonid as yet undetermined. This was the only *Pimpla* bred from the lot, which consisted of something over a hundred *Crambus* cocoons.

Besides this bred specimen, a long series of this species were collected in the field. Localities and dates are as follows: Champaign County, 16 May, 12 June, and 3 July 1885 (sweepings); 7 Aug. 1886, and 15 Oct. 1887; McLean Co., 15 June, and 7 Nov. 1883; Tazewell Co., 14 Aug. 1883; Hancock Co., 26 June 1883 (sweepings in clover field); Marion Co., 20 Apr. and 20 May 1883 (sweepings in strawberry field); and in Knox Co.

PIMPLA CONQUISITOR Say.

We have one specimen of this handsome insect bred from *Orgyia leucostigma* at Normal, 14 July 1883; and another was bred, 28 June 1884, from the pupa of some lepidopterous leaf-roller on grass—the precise species not being known, as but the one example was collected.

Of a large series collected in the field mention may be made of those taken at Normal from May to October during 1882, 1883 and 1884; and of a fine female specimen taken on flowers at Champaign, 20 Sept. 1886.

PIMPLA INQUISITOR Say.

This species has been twice bred from *Orgyia leucostigma*; and an adult was noticed by Mr. H. Garman, at Normal, 21 June 1883, "attempting to sting," a full grown *Orgyia* larva. Another was bred from what was supposed to be a phalaenid larva on apple in 1885—the host being collected 10 June, and the adult parasite emerging 29 June. The species has also been taken in the field at various times—among others at Urbana 13 June 1885, and 3 Oct. 1887, and at Normal 13 June 1883.

PIMPLA ALBORICTA Cresson.

A single specimen of this beautiful little insect was bred at Normal, 11 Aug. 1884, from an unknown lepidopterous leaf-rolling larva on sycamore (*Platanus*).

GLYPTA VULGARIS Cresson.

Two specimens of this species were bred during the summer of 1884 from larvae of *Botys inaequalis* collected in June on thistle heads. Another emerged 24 July 1883, from a chrysalis in the fold of a strawberry leaf collected at Normal. Others were taken in the woods in Tazewell Co. 14 Aug. 1883; and on apple trees in McLean Co., 3 May 1884.

GLYPTA SIMPLICIPES Walsh.

A single specimen of this insect was bred 8 August 1884, from the cocoon of some leaf-roller on apple—just what species I cannot say. Both *Teras minuta* (Robs), and *Cacoecia rosaceana* Harr., were present in the field of

young apple trees from which the cocoon was taken.

TROGUS OBSIDIANATOR Brullé.

The only bred specimen of this species emerged 13 June 1885, from a lepidopterous cocoon supposed to be that of *Pyrrharctia isabella*. Other specimens were collected in McLean Co., 16 June and 13 July 1882, and 26 June 1885.

TROGUS EXESORIUS.

This insect seems especially to attack the larvae of species of *Papilio*. Dr. A. S. Packard has noted¹ that it infests *P. asterias*, *P. troilus*, *P. turnus*, *P. ajax* and *P. marcellus*, and Mr. Frederick Clarkson has also bred it from *P. troilus*, and has made the interesting observation that the point of exit of the parasite is "the same in every case, viz., on the right or left side, about midway of the thorax, at the widest part."²

Four larvae of *Papilio asterias* were collected on parsnip, 23 July 1885, at Champaign. One specimen pupated 27 July, another 28 July, another 30 July. The date of pupation of the fourth larva was not recorded, but the first butterfly emerged 5 August, and a second one 17 August. A live *Trogus* was found in the cage 25 August, and another emerged 5 Sept. Hence it appears that the parasite remains in the pupa state somewhat longer than its host.

Other specimens of this insect were collected at Bloomington 23 Sept. 1879; and at Champaign 8 July 1887, the latter being taken in the woods.

¹Proc. Bost. soc. nat. hist., Aug. 1881, v. 21, p. 21-22.

²Can. entom., Sept. 1883, v. 15, p. 162.